

ABSTRACT

To provide an optical fiber strain sensor device and a strain detection method, for measuring precisely AE and for detecting effectively a rapid strain change due to a shock load, an optical fiber strain sensor device includes an FBG sensor mounted on an object to be measured, a broadband light source for directing a broadband wavelength light ray to the FBG sensor, and an FBG filter that reflects or transmits a light ray reflected from the FBG sensor, and, using the FBG filter, the optical fiber strain sensor device processes and detects a change in the center wavelength of the light ray that has been incident from the broadband light source and then has been reflected from the FBG sensor.